

1.932  
44P65  
VAP\*ALC\*mmmb  
5/27/41

THE PINEAPPLE: CHEMISTRY AND PRODUCTS\*

A List of References

Compiled by V. A. Pease and A. L. Curl,  
Agricultural Chemical Research Division,  
Bureau of Agricultural Chemistry and Engineering,  
U. S. Department of Agriculture; Washington, D.C.

Chittenden, R. H., E. P. Joslin and F. S. Meara.

- 1892 On the ferments contained in the pineapple (*Ananassa sativa*) together with some observations on the composition and proteolytic action of the juice. Trans. Conn. Acad. Arts and Sci., vol. 8, pp. 281-308.

Chittenden, R. H.

- 1893 On the proteolytic action of bromelin, the ferment of pineapple juice. Jour. Physiol., vol. 15, pp. 249-310.

Munson, L. S., and L. M. Tolman.

- 1903 The composition of fresh and canned pineapple. Jour. Amer. Chem. Soc., vol. 25, pp. 272-279.

Chace, E. M., L. M. Tolman and L. S. Munson.

- 1904 Chemical composition of some tropical fruits and their products II. Composition of fresh and canned pineapple. U. S. Dept. Agr., Bur. Chem. Bull. 87, pp. 31-38. Out of print.

Gore, H. C.

- 1910 Experiments on the preparation of sugared, dried pineapples. U. S. Dept. Agr., Bur. Chem. Circ. 57, 8 pp. Out of print.

Blair, A. W., and R. N. Wilson.

- 1910 Pineapple culture. IV. The effects of fertilizers upon the quality of the fruit. Florida State Agr. Exp. Sta. Bull. 101, pp. 29-42.

Kelly, W. P.

- 1911 A study of the composition of Hawaiian pineapples. Jour. Ind. Eng. Chem., vol. 3, p. 403.

---

\*These references may be consulted in comprehensive public and technical libraries, and in the libraries of State Universities and State Agricultural Experiment Stations.

Copies of U. S. Patent descriptions may be obtained from the Commissioner of Patents, United States Patent Office, Washington, D.C., for ten (10¢) cents (stamps not accepted, coin used at risk of sender); and photostat copies of foreign patents may be obtained from the same source at twenty (20¢) cents per page.



- Shriver, J. A.  
1915 Pineapple canning industry of the world. U. S. Dept. Commerce, Bur. Foreign and Domestic Commerce, Spec. Agt. Ser. No. 91, 43 pp.
- McClendon, J. F.  
1921 Methods of extracting and concentrating vitamins A, B, and C, together with an apparatus for reducing milk, fruit juices, and other fluids to a powder without destruction of vitamins. Jour. Biol. Chem., vol. 47, pp. 411-420. Reviewed, - Chem. Abst., vol. 15, p. 3501, 1921.
- Hickey, A. M.  
1921 The use of filter-cel for industrial filtration processes. Ind. Eng. Chem., vol. 13, pp. 990-992.
- Barter, C. P.  
1922 The Hawaiian pineapple cannery. Canning Age, vol. 3, no. 6, pp. 5-16, June.
- Swarz, H.  
1922 The disposal of refuse in pineapple canneries. Proc. 1st Ann. Conf. Hawaii Canners' Soc., pp. 85-96.
- Hoyt, S. T.  
1922 How Hawaiian pineapple is grown and packed. Canner, vol. 55, p. 27, July 1.
- Savage, ---  
1923 By-products in canning Hawaiian pineapples. Canner, vol. 57, pp. 23-24, Oct. 23.
- Pilorz, B.  
1923 By-products of the pineapple industry. Proc. 2nd Ann. Short Course in Pineapple Products, Univ. Hawaii, pp. 187-191.
- Miller, C. D.  
1924 Vitamins A and B in fresh and canned pineapple. Jour. Home Econ., vol. 16, pp. 18-26, 74-79.
- Miller, C. D.  
1925 Vitamin C in fresh and canned pineapple. Jour. Home Econ., vol. 17, pp. 377-382.
- Nelson, E. K.  
1925 The non-volatile acids of the strawberry, the pineapple, the raspberry, and the concord grape. Jour. Amer. Chem. Soc., vol. 47, p. 1177.
- Miller, C. D.  
1926 The food value of Hawaiian canned pineapple. A. H. P. C. Exp. Sta. Bull. 5, 21 pp.  
Vitamin and mineral content of pineapple bran. A. H. P. C. Exp. Sta. Bull. 6, 11 pp.



Joslyn, M. A.

- 1927 Heat penetration in relation to pasteurization. Fruit Prod. Jour., vol. 7, no. 2, pp. 9-11, Oct.

Mead, S. W., and H. R. Guilbert.

- 1927 The digestibility of certain fruit by-products as determined for ruminants. II. Dried pineapple pulp, dried lemon pulp, and dried olive pulp. Calif. Agr. Exp. Sta. Bull. 439.

Dean, A. L.

- 1927 The effect of storage temperature on canned pineapple. Pineapple News, vol. 1, pp. 83-84.

Daughters, M. R.

- 1927 The clarification and filtration of fruit juices. Canning Age, vol. 8, pp. 503-505. Reviewed, - Chem. Abst., vol. 23, p. 3993, 1929.

Anonymous.

- 1928 Glaced pineapple. Konserven Ind., vol. 15, no. 7, p. 74, Feb. 16.

Anonymous.

- 1928 Pineapple juice (editorial review). Jour. Amer. Med. Assoc., vol. 91, p. 325, Aug. 4.

Dean, A. L.

- 1928 New vitamin studies (on pineapple). Pineapple News, vol. 2, pp. 117-118.

Anonymous.

- 1928 Chemical changes in pineapple stalks and developing fruits. Pineapple News, vol. 2, pp. 103-108.

Anonymous.

- 1928 Powdered fruit juice. Canner, vol. 67, p. 36, Sept. 15.

Ford, K. L., and A. G. Osborne.

- 1928 Heat transfer determinants of "in the bottle" pasteurization of fruit juices. Glass Container, vol. 8, pp. 7-8, Nov.

Davies, R.

- 1928 Pineapple storage and export. Farming in South Africa, vol. 3, pp. 883-884, 891. Reviewed, - Chem. Abst., vol. 22, p. 3936, 1928.

Wells, A. H., et al.

- 1928 Composition of Philippine pineapples. Philippine Jour. Sci., vol. 36, pp. 157-186. Reviewed, - Chem. Abst., vol. 23, p. 449, 1929.

Sideris, C. P., B. H. Krauss and E. Masunaga.

- 1928 The effect of the salt concentration of the culture solution on the growth and composition of pineapple plants. Amer. Jour. Botany, vol. 15, pp. 353-371. Reviewed, - Chem. Abst., vol. 22, p. 3683, 1928.



O'Connor, C. A.

- 1928 The pineapple industry. Rev. Agr. Maurice, vol. 5, pp. 4-9.

Miller, C. D.

- 1928 Note on the effect of ingesting large amounts of pineapple juice upon the pH of the urine. Jour. Home Econ., vol. 20, pp. 498-501.

Irish, J. H., M. A. Joslyn and J. W. Parcell.

- 1928 Heat penetration in the pasteurizing of sirups and concentrates in glass containers. Hilgardia, vol. 3, pp. 183-206. Reviewed, - Chem. Abst., vol. 22, p. 3710, 1928.

Greenstreet, V. R., and G. L. Teik.

- 1928 By-products of the pineapple canning industry. Malay Agr. Jour., vol. 16, pp. 8-13.

Anonymous.

- 1928 Revolutionary preserving method sterilizes by electricity (Matzka process). Canning Age, vol. 9, pp. 399-400.

Savage, H. E.

- 1929 Increasing demand for pineapple packed in glass. Canner, vol. 68, no. 5, pp. 58-60, Jan. 19.

Winkelmann, H.

- 1929 Chemical plant in food processing. Chemische Apparatus, vol. 16, pp. 14-16, Jan. 25.

Ford, K. L., and A. G. Osborne.

- 1929 Study of pasteurizing fruit juices in the bottle. Beverage News, vol. 23, pp. 18-20, Mar.

Irish, J. H., W. V. Cruess and P. H. Richert.

- 1929 Preparation of dried fruit juices. Canner, vol. 68, p. 36, June 8.

Anonymous.

- 1929 Drying fruit juices in Budapest. Food Manufacture, vol. 4, p. 174, June.

Theodore, B.

- 1929 The story of foods and food products. The pineapple industry. Pract. Home Econ., vol. 7, pp. 235-236.

Ayers, S. H.

- 1929 Changes in state of reduction of fruit juice by biological means. Glass Container, vol. 8, pp. 16, 32, 34, Sept.

Joslyn, M. A.

- 1929 Storage of fruit juices without injury to color and flavor. Glass Packer, vol. 2, pp. 271-273.



Eoff, J. R., Jr., H. Buttler and W. Melchoir.

- 1929 Some unusual alcoholic fermentations. Ind. Eng. Chem., vol. 21, pp. 1277-1279. 381 J-825

Anonymous.

- 1929 Citric acid will be made from pineapples in Hawaii. Oil, Paint and Drug Repr., vol. 116, no. 27, p. 54.

Anonymous.

- 1929 Dried pineapple process developed in Porto Rico. Food Industries, vol. 1, p. 673.

Kopp, A.

- 1929 Encyclopedie Biologique, vol. VI. Les Ananas. Culture - Utilization, 283 pp.

Anonymous.

- 1930 Food value of pineapple juice. Jour. Amer. Med. Assoc., vol. 94, p. 1012.

Anonymous.

- 1930 Pineapple peeling machine devised in Porto Rico. Food Stuffs Round the World, Canned & Dried Foods, (U. S. Dept. Commerce), no. 110511, p. 2, July 18.

Stewart, R.

- 1930 The golden fruit of Pacific isles. Canning Age, vol. 11, pp. 264-266.

Anonymous.

- 1930 The white pattern in pineapple fruits. Pineapple News, vol. 4 pp. 124-132.

Anonymous.

- 1930 The composition of pineapples canned in juice. Pineapple News, vol. 4, p. 123.

Grist, D. H.

- 1930 The Malayan pineapple industry. Malayan Agr. Jour., vol. 18; 1. General, pp. 188-191; 2. Cultivation, pp. 242-246; and 3. Canning, pp. 293-298.

Heyman, W. A.

- 1930 Chemical and bacterial problems in the bottling industry. Beverage News, vol. 24, no. 4, pp. 21-23, Dec. 19.

Anonymous.

- 1931 Romance of the by-products. Western Canner and Packer, vol. 22, no. 12, pp. 40-41, Mar. 20.

Eckart, T. G.

- 1931 Freezing storage of pineapple products. Fruit Prod. Jour., vol. 10, pp. 364-366.



Farrell, A.

- 1931 Successful pineapple canning depends on close production control.  
Food Industries, vol. 3, pp. 144-147.

Anonymous.

- 1931 Pineapple canning industry in Malaya. Malayan Agr. Jour., vol. 19, pp. 425-445.

Note.

- 1931 Hawaiian citric acid plant. Food Manufacture, vol. 6, p. 53.

Linford, M. B.

- 1932 Characteristics and composition of pineapple fruit. Pineapple News, vol. 6, p. 334.

Anonymous.

- 1932 Citric acid from pineapple. Western Canner and Packer, vol. 24, no. 5, pp. 11-12.

Chace, E. M.

- 1932 Quick frozen pineapple juice and appetizing product. Western Canner and Packer, vol. 24, no. 1, pp. 20-21.

Anonymous.

- 1932 Pineapple in a vacuum. Canning Age, vol. 13, pp. 48, 60.

Killian, J. G.

- 1933 The nutritional value of canned pineapple. Educational Committee, Pineapple Producers Coop. Assoc., Ltd., San Francisco, 44 pp.

Ashcraft, H.

- 1933 The versatile pineapple. Manufacturing Confectioner, vol. 13, no. 10, pp. 18-23.

Bornn, R. W.

- 1933 What is happening in Cuba? Pineapple juice drinks. Nat'l. Bottlers Gaz., vol. 52, pp. 57-58.

Williams, W. J.

- 1933 Cold storage of pineapples and pineapple juice. Ice and Refrigeration, vol. 85, no. 1, pp. 25-26.

Sideris, C. P., and B. H. Krauss.

- 1933 Physicochemical reactions in the tissues of ripe pineapple fruits (abstract). Amer. Jour. Botany, vol. 20, pp. 682-683.

Matthews, H. H.

- 1933 Sees possibility of juice outselling all other pineapple items. Canner, vol. 76, no. 15, p. 14, Mar. 27.

Balls, A. K.

- 1934 Notes on the prevention of fruit darkening. U. S. Dept. Agr., Bur. Chem. & Soils (mimeo.), 1 p.



Anonymous.

- 1934 Pineapple. A Tropical Isle finds a big place in the business sun. Western Canner and Packer, vol. 26, no. 2, pp. 19-30.

Cornell, E. F.

- 1934 Many by-products available from waste materials. Western Canner and Packer, vol. 25, no. 13, pp. 11-12, April.

Miller, C. D., and R. C. Robbins.

- 1934 Vitamin C in fresh pineapple juice and in guavas. Hawaii Agr. Exp. Sta., Ann. Rept. for 1933, p. 25.

Committee on Foods.

- 1934 Libby's natural Hawaiian pineapple juice (analysis). Jour. Amer. Med. Assoc., vol. 103, p. 1779, Dec. 8.

Abel, F. A. E., et al.

- 1934 Indirect methods for the estimation of sugar in pineapple juices. Exp. Sta., Pineapple Producers Coop. Assoc. (Univ. Hawaii), Bull. 14, 27 pp.

Magistad, O. C.

- 1935 Carotene and xanthophyll in pineapples. Plant Physiol., vol. 10, pp. 187-191. Reviewed, - Biol. Abst., vol. 10, p. 33, 1936.

Chapman, R. N.

- 1935 More salvage in pineapple waste. Western Canner and Packer, vol. 26, no. 10, p. 19, Feb.

Follett-Smith, R. F.

- 1935 Pineapples. (Analyses, fresh and canned) Div. Rept., Dept. Agr. Brit. Guiana for 1933, pp. 98-100.

Sater, L. E.

- 1935 Passing an alternating electric current through food and fruit juices. Iowa Agr. Exp. Sta. Research Bull. 181, pp. 273-312.

Committee on Foods.

- 1935 Hawaiian crushed pineapple (analysis). Jour. Amer. Med. Assoc., vol. 104, p. 1331.

Committee on Foods.

- 1935 Hawaiian pineapple (analysis). Jour. Amer. Med. Assoc., vol. 104, p. 2097.

Tempany, H. A., and G. D. P. Olds.

- 1935 Application of the exhaust process in the Malayan pineapple canning industry. Malayan Agr. Jour., vol. 23, pp. 563-567, Dec.

Buchler, W.

- 1935 Pineapple canning in Malaya. Canner, vol. 80, no. 24, pp. 11-12, May 25.



- Abel, F. A. E., O. C. Magistad, C. A. Farden and L. Louis.  
1935 Indirect methods for determining sugar in pineapple juice.  
Univ. Hawaii Bull. 14, 27 pp.
- Johnson, M. O.  
1935 The pineapple (extensive bibliography). 306 pp., illus.  
Paradise of the Pacific Press, Honolulu, Hawaii.
- Highlands, M. E.  
1935 Canning pineapple in Puerto Rico. Food Industries, vol. 7,  
pp. 279-280.
- Jagenburg, E. R.  
1935 Puerto Rico -- Laboratory of specialty pineapple packing.  
Food Industries, vol. 7, p. 386.
- McPhee, D.  
1936 Millions guzzle and all's well on the pineapple front. Sales  
Management, vol. 39, pp. 226-228, Aug. 15.
- Committee on Foods.  
1936 Cellu Juice Pak Pineapple juice (analysis). Jour. Amer. Med.  
Assoc., vol. 106, p. 539.
- Committee on Foods.  
1936 Dole brand Hawaiian pineapple slices and tidbits -- water packed  
(analyses). Jour. Amer. Med. Assoc., vol. 106, p. 923.
- Guerrant, N. B., R. A. Dutcher, F. S. Tabor and R. Rasmussen.  
1936 The vitamin content of canned pineapple juice. Jour. Nutrition,  
vol. 11, pp. 383-390.
- Polk, I. H.  
1936 Packing of fresh citrus fruit and pineapple juice. Ice and  
Refrigeration, vol. 90, pp. 143-144. Reviewed, - Chem. Abst.,  
vol. 30, col. 8416, 1936.
- Bose, P. K., and S. N. Bhattacharya.  
1937 Dimethyl citrate from pineapple. Science and Culture, vol. 2,  
p. 162. Reviewed, - Chem. Abst., vol. 31, p. 6622, 1937.
- Bergmann, Max, Joseph S. Fruton and Heinz Fraenkel-Conrat.  
1937 Bromelin I and II of pineapple juice. J. Biol. Chem., vol. 119,  
pp. 35-46.
- Villanueva, L. J.  
1937 The effect of varying amounts of sugar added to pineapple mash  
on acidity and yield of "Nata de Pina". Philippine Agr., vol.  
26, pp. 508-514. Reviewed, - Chem. Abst., vol. 32, p. 7155<sup>3</sup>, 1938.
- Clark, H. E.  
1938 Oxalates in pineapples. Food Res., vol. 4, pp. 75-80.



Cabbab, Alfredo C., and F. A. Saliven.

- 1938 The proximate physical and chemical composition of 26 species of citrus and 12 non-citrus fruits grown in the Philippines (including pineapple). Philippine Agr., vol. 26, pp. 644-654.

Bailey, E. M.

- 1938 Vitamin C in canned pineapple juice. Conn. Agr. Exp. Sta. (New Haven) Bull., vol. 415, pp. 683-686. Reviewed, - Chem. Abst., vol. 33, p. 766<sup>6</sup>, 1939.

Hornaday, W. D.

- 1939 Capt. Kidwell's treasure. Hawaii's growing fruit juice industry has come a long way in a few years. Canner, vol. 89, no. 2, pp. 12-13.

Note.

- 1939 Uses pineapple juice to tenderize casings. Food Field Repr., vol. 7, no. 18, p. 32.

Note.

- 1940 To can juice from Mexican pineapples (in Christensen, Inc. plant, McAllen, Texas). Canner, vol. 90, no. 7, p. 17.

Note.

- 1940 Libby freezes Hawaiian pineapple juice. Western Canner and Packer, vol. 32, no. 3, p. 51, Mar.

Hornaday, W. D.

- 1940 Hawaiian pineapple meets the challenge of industrial safety. Canner, vol. 90, no. 19, pp. 11-12, April 13.

Ramsbottom, J. M., and C. A. Rinehart.

- 1940 Meat packer puts fruit enzyme to work. Food Ind., vol. 12, no. 6, pp. 45-47, June.

Note.

- 1940 Production of juice from Mexican pineapples starts in Texas (Weslaco). Canner, vol. 91, no. 2, p. 16, June 15.

Note.

- 1940 Hawaiian pineapple industry. Fruit Prod. Jour., vol. 20, p. 19, Sept.

Gaztambide, Carlos Arrillaga.

- 1940 By-products of the pineapple industry. Rev. agr. ind. y com. Puerto Rico, vol. 32, pp. 506-508. Reviewed, - Chem. Abst., vol. 35, p. 1533<sup>1</sup>, 1941.

Rosen, Karl B.

- 1940 Preparation of and determination of invert sugar in pineapple juice. Bull. Nat'l. Formulary Com., vol. 8, pp. 351-353. Reviewed, - Chem. Abst., vol. 34, p. 8090<sup>8</sup>, 1940.

Asenjo, Conrado F.

- 1940 A preliminary study of the anthelmintic activity in vitro of fresh pineapple juice. J. Amer. Pharm. Assoc., vol. 29, pp. 8-10. Reviewed, - Chem. Abst., vol. 34, p. 2069<sup>2</sup>, 1940.



UNITED STATES PATENTS

- 1,527,304, February 24, 1925, W. A. Heyman; Preservation of fruit juices (includes pineapple juice).
- 1,573,177, February 9, 1926, W. A. Heyman; Preservation of fruit juices (includes pineapple juice).
- 1,641,429 September, 1927, W. A. Heyman; Preservation of fruit juices (includes pineapple juice).
- 1,734,159, November 5, 1929, Charles H. Dolan; Machine for treating the tops of pineapples.
- 1,764,491, June 17, 1930, C. S. Ash,- to Calif. Packing Corp.; Treating pineapple with inert gas before canning.
- 1,778,047, October 14, 1930, J. D. Stubbe; Apparatus for drying fruits.
- 1,782,761, November 25, 1930, J. T. McCrosson; Method of canning pineapple and product thereof.
- 1,813,574, July 7, 1931, Wm. Horlick; Food product and method of manufacture thereof.
- 1,819,575, August 18, 1931, R. B. Taylor,- to Hawaiian Canneries, Ltd.; Device for recovering pineapple from waste shells.
- 1,844,810, February 9, 1932, R. B. Taylor; Means for recovering pineapple from waste shells.
- 1,944,265, January 23, 1934, B. Pilorz,- to Calif. Packing Corp.; Food product (pineapple waste for stock feed).
- 1,964,143, June 26, 1934, R. B. Taylor; Pressure process for canned pineapple.
- 1,994,670, March 19, 1935, A. T. Scott,- to Sharples Specialty Co.; Refining pineapple juice.
- 2,003,644, May 14, 1935, P. C. Clifford and J. C. y Garcia; Biophysical process for preserving and conserving fermentable liquids.
- 2,011,020, August 13, 1935, R. B. Taylor; Canning pineapples and similar products.
- 2,011,465, August 13, 1935, A. K. Balls and W. S. Hale; Process for inhibiting the discoloration of dried fruits and vegetables.
- 2,016,584, October 8, 1935, C. S. Ash and E. P. Roleson,- to Calif. Packing Corp.; Treating pineapple juice for the manufacture of a sirup and citrates therefrom.



- 2,023,810, December 10, 1935, A. Horner,- to Hawaiian Canneries Co., Ltd.; Pineapple meats mechanically separated from peel preparatory to canning.
- 2,034,160, March 17, 1936, R. B. Taylor; Automatic pineapple machine.
- 2,053,238, September 8, 1936, H. H. Dulany,- to Hawaiian Pineapple Co., Ltd.; Pineapple packing.
- 2,066,574, January 5, 1937, Bruno P. Pilorz and Bernard J. Butler; Food concentrates from pineapple, etc.
- 2,092,786, September 14, 1937, W. E. Taylor,- to American Can Co.; Packing method and apparatus (for pineapples and the like).
- 2,092,763, September 14, 1937, J. D. LeFrank,- to American Can Co.; Pineapple cylinders cut into slices or finger segments and solid-packed into cans for sealing in one machine; also
- 2,092,773, September 14, 1937, R. E. J. Nordquist and J. D. LeFrank,- to American Can Company.
- 2,103,449, December 28, 1937, Chamber L. Crutchfield and John P. Foster,- to Maui Pineapple Co., Ltd.; Distilled product from pineapple juice.
- 2,124,895, July 26, 1938, H. D. Rey,- to Anglo Calif. Nat'l. Bank of San Francisco; Method of preparing pineapple.
- 2,177,646-7, October 31, 1939, Frederick D. Gardner; Preparing fibers from plant materials such as pineapple leaves, flax, hemp and jute.
- 2,223,739, December 3, 1940, R. J. Newton,- to Calif. Packing Corp.; Apparatus for extracting juices.



BRITISH PATENTS

- 267,058, September 5, 1925, W. Matzka; Electrical sterilization of fruit juices. Reviewed, - Chem. Abst., vol. 22, p. 833, 1928.
- 267,377, September 5, 1925, W. Matzka; Electrical sterilization of fruit juices. Reviewed, - Chem. Abst., vol. 22, p. 1064, 1928.
- 263,047, June 29, 1926, S. M. Corbett; Preparation of pineapple stock food.
- 276,254, July 1, 1926, W. Matzka; Electrical sterilization of fruit juices. Reviewed, - Chem. Abst., vol. 22, p. 2420, 1928.